

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Line 3 of page 2 recites “(amongst others measures)”. This should be changed to “(amongst other measures)”.

Line 4 of page 6 recites “in designated site area”. This phrase should include a pronoun and should be changed to “in the designated site area”.

Line 4 of page 12 recites “the intension is indeed”. This should be changed to “the intention is indeed”.

Lines 17-18 of page 15 recite “said indoor equipments”. This should be changed to “said indoor equipment”.

Line 4 of page 25 recites “will also effects”. This should be changed to “will also affect”.

Lines 21 and 22 of page 1 recite “the facility of housing each network’s equipment in a separately accessible individual room contemplates an operational and security advantage”. Examiner finds the use of “contemplates” with an inanimate subject confusing. Examiner requests that in this instance, and all applicable instances throughout the disclosure, “contemplates” be changed to “provides”, “poses”, or another suitable verb.

Appropriate correction is required.

Claim Objections

2. Claims 4 and 7 are objected to because of the following informalities:

Claim 7 recites “fit to receive any desired type of known in the art cable-entry sealing system”. This should be changed to “fit to receive any desired type of cable-entry sealing system known in the art.

Claim 4 recites “anchor part of tower-base”. This phrase is lacking a pronoun and should read “anchor part of a tower base”.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4 and 6 recite the limitation " said tower". Claim 1 recites only “A foundation for a tower” and a tower alone is never positively recited in claim 1 or preceding the phrases in claim 4 or claim 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 22 states “said means of said transversely coupling...is substantially the same as said means of said transversely coupling...”. As best understood, applicant is intending that the coupling means are consistent throughout the foundation.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

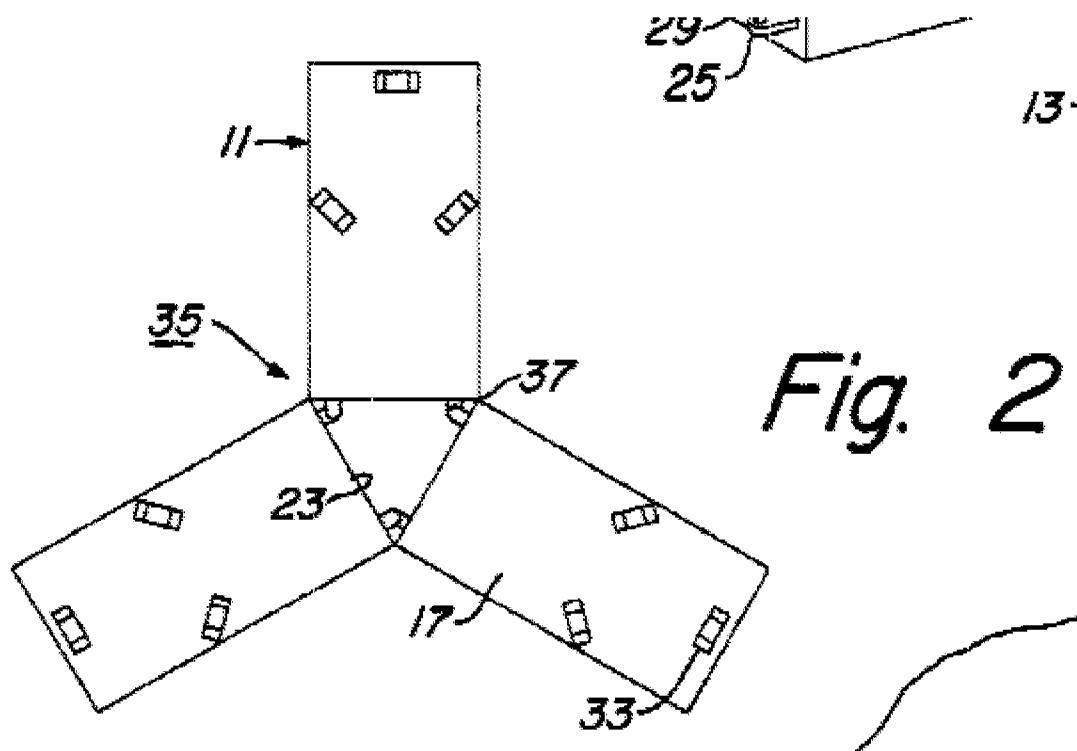


Figure 2 from McGinnis

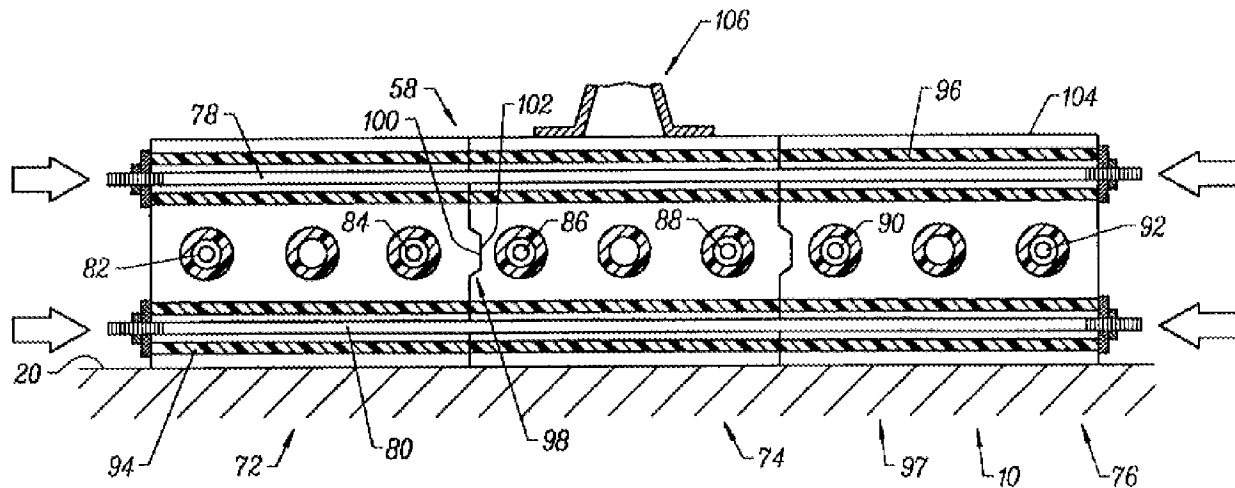


FIG. 4

Figure 4 from Fey

5. Claims 1-4, 6-11, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGinnis (US Patent 6,557,312) in view of Fey (US Patent 6,050,038).

Regarding claim 1, McGinnis discloses “a foundation for a tower, comprising a plurality of prefabricated concrete shelters...being arranged on a site such that every shelter is abutting and couples to at least one other adjacent shelter....and function as a monolithic foundation” (Fig. 2, elements 11). McGinnis fails to disclose “that a substantially vertical surface of contact exists” between the shelters and that across that vertical surface “the means of [the] coupling is transversely effected”. Fey discloses prefabricated concrete structures with a vertical contact surface with coupling across

Art Unit: 4155

that surface (Fig. 4, element 58). Attaching prefabricated structures to one another via a vertical surface with coupling means across it provides for better structural integrity as the attachment will resist shear forces, which would tend to cause the structures to separate. Modifying the tower foundation of McGinnis with the vertical surface attachment means of Fey would have been obvious to one of ordinary skill in the art at the time of the invention in order to construct a more robust static structure.

Regarding claim 2, McGinnis discloses the plan view shape of the foundation to be “a regular geometric shape, which is characterized by a polar symmetry about a central vertical axis” (Fig. 2).

Regarding claim 3, McGinnis discloses that the shelters “are all identical” and are “arranged around [a] common central vertical axis of symmetry” (Fig. 2).

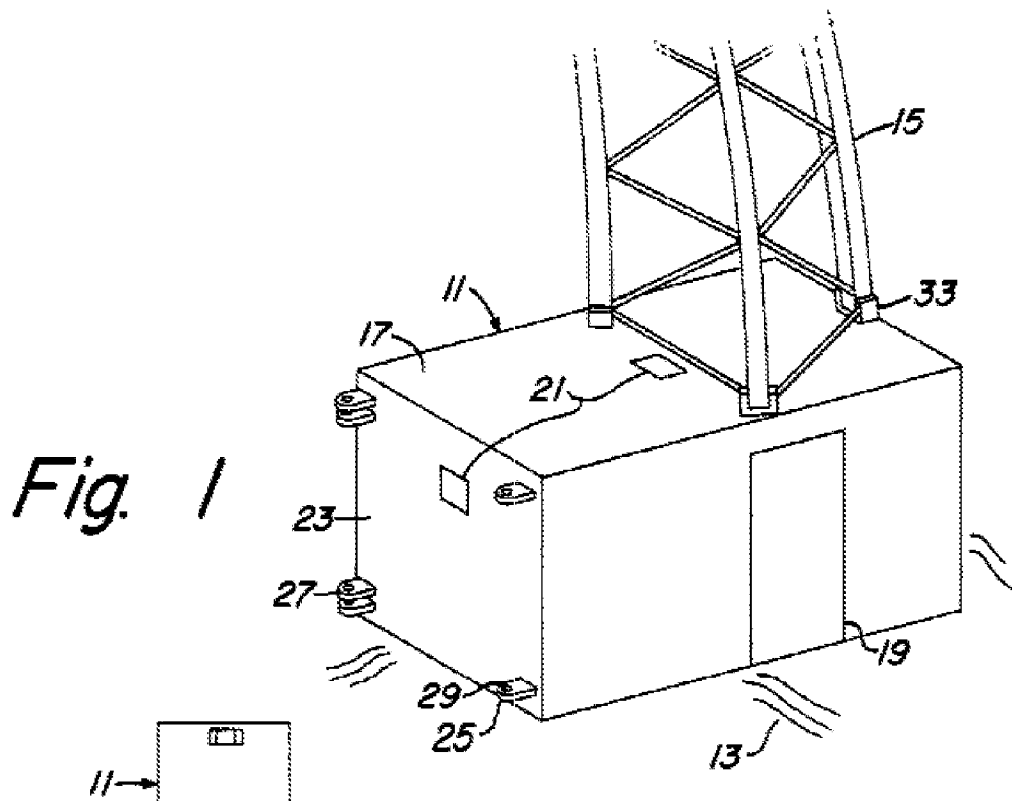


Fig. 1 from McGinnis

Regarding claim 4, McGinnis discloses the tower foundation to include “certain apparatus for anchoring part of [a] tower-base, located on its roof, such that [the] anchoring apparatus of the entirely assembled foundation is geometrically fit and mechanically adequate to receive the base of [a] tower” (Fig. 1, element 33, repeated on each prefabricated unit).

Regarding claim 6, McGinnis discloses that “the plan view shapes of [the] shelters are such that, when all said shelters comprising a single foundation are assembled together, they encircle a substantially vertical internal shaft, though which antenna

Art Unit: 4155

cables and other utility cables or pipes may be routed from near the base of [the] tower into each of [the] shelters". It is clear from Fig. 2 that the foundation, in plan view, would encircle a vertical tower through which it would be necessary to run cables. In Fig. 1, elements 21 are spaces through which antenna cables and other utility cables and pipes could be routed into the shelters.

Regarding claim 7, McGinnis discloses "a plurality of openings...for easy and neat routing of [the] antenna cables and other utility cables or pipes through the shelter's walls are provided in desired locations in the walls" (Fig. 1, elements 21).

Regarding claim 8, Fey discloses the "means of...coupling...adjacent shelters" to comprise "a single or plurality of substantially horizontal bores, passing substantially transversely through the abutting walls of...adjacent shelters, such that substantial bore alignment exists when both shelters are finally positioned....and a single or plurality of substantially horizontal elongated connecting members passing through said bores." In Fig. 4 of Fey, one such horizontal bore is present in element 94, for example, and the elongated connecting member is present in element 80, for example.

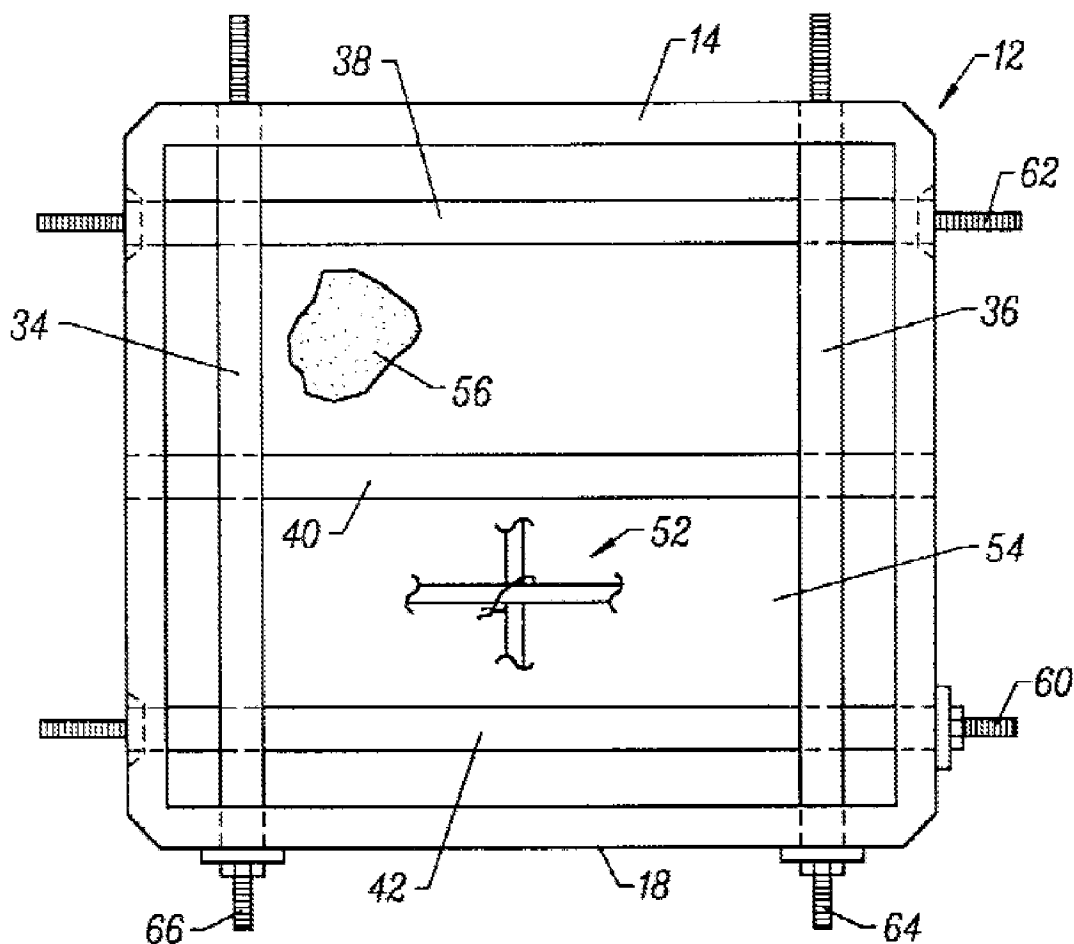


FIG. 3

Regarding claim 9, Fey discloses the horizontal bores to “include living sleeves” (Fig. 3, element 36).

Regarding claim 10, Fey discloses the connecting members to be “bolts of appropriate size and length, each bolt having a respective end tightening assembly comprising a

Art Unit: 4155

single nut, and...[a] plate-washer" (Fig. 3, element 66). A nut and washer can clearly be seen attached to element 66.

Regarding claim 11, Fey discloses "rod[s] being threaded at both its ends in the same direction...including at each of both its ends a respective end tightening assembly, comprising a single nut...and [a] plate-washer" (Fig. 4).

Regarding claim 15, Fey discloses the vertical surface of contact to have "a substantially vertical plane having a bulge...formed on one of the two abutting walls...and a socket of a matching shape, size and location formed in the second of [the] two abutting walls" (Fig. 4, elements 100 and 98).

6. Claims 5, 12-14, are rejected under 35 U.S.C. 103(a) as being unpatentable over McGinnis (US Patent 6,557,312) in view of Fey (US Patent 6,050,038) as applied to claims 1-4, 6-11, and 15 above, and further in view of Silber (US Patent 6,702,522).

Silber teaches that it is known in the art to use anchor bolts (Fig. 8, elements 90). Using anchor bolts when attaching a tower to a foundation provides for a secure connection that is easy to install in concrete fabrications. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tower foundation of McGinnis as modified by Fey, by using anchor bolts similar to that of Silber in order to easily and securely attach a tower.

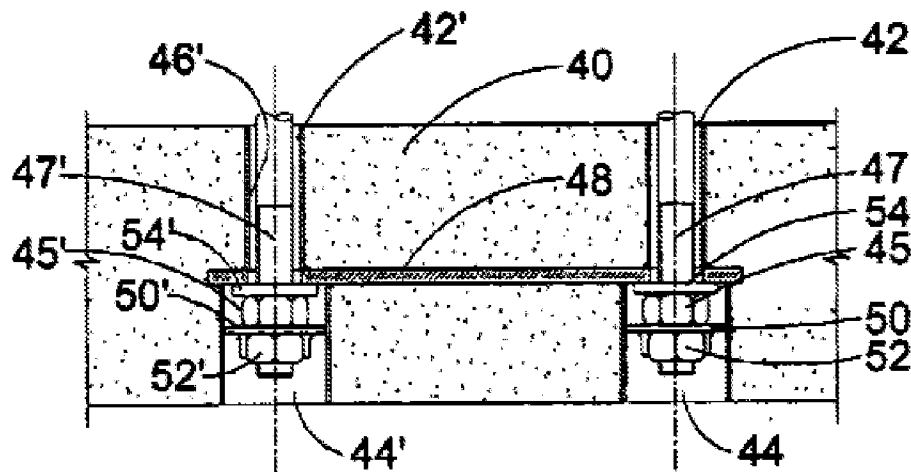


FIG. 5

Fig. 5 from Silber

Regarding claim 12, McGinnis in view of Fey discloses the apparatus of claim 10, as set forth above, but lacks a given bore including “a recess at its end facing the interior of the shelter...such that ...no part of the elongated connecting member is projecting inwards from the internal surface of the respective wall.”

Silber teaches that it is known in the art to include a recess in the bores of prefabricated structures (Fig. 5, element 44). Using recesses at the sites of bores on internal walls of prefabricated structures allows for a tightening assembly to be installed on connecting members through the bores which does not protrude from the wall, which allows objects occupying internal space to be placed flush against the walls, thereby increasing the actual useable internal space available. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tower foundation of McGinnis as

Art Unit: 4155

modified by Fey, by incorporating recesses about the bores similar to that of Silber in order to increase the useable internal space of the shelters.

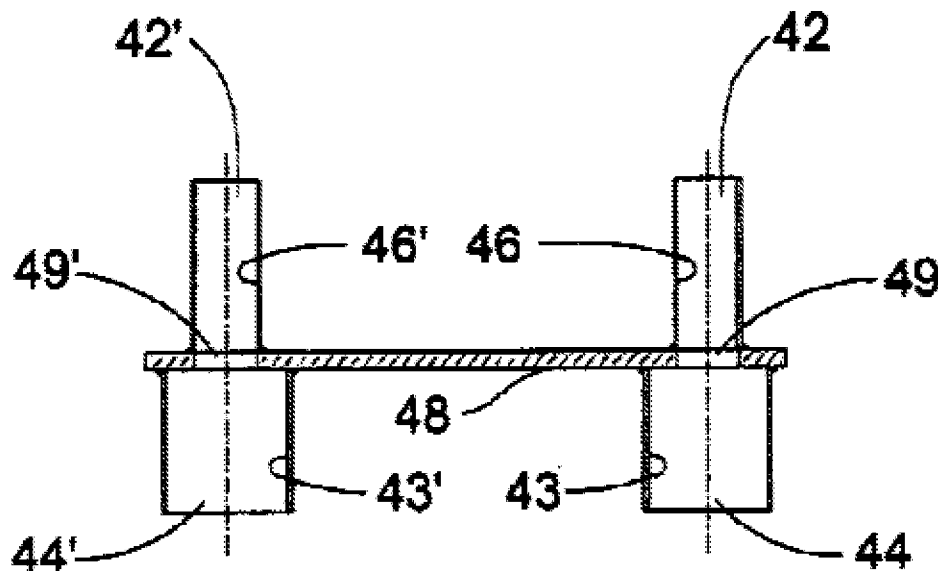
**FIG. 6**

Fig. 6 from Silber

Regarding claim 13, Silber discloses the use of a “metal liner embedded in the concrete wall casting...including a substantially vertical plate, at least the size of the cross section of [the] recess, with a hole substantially co-axial with [the] bore” in Fig. 6. Fig. 6 is a detailed figure of the liner in the recess (44) of Fig. 5. Using a metal liner in the recesses increases the durability of the recess and decreases the likelihood of cracking near the bores. It would have been obvious to one of ordinary skill at the time of the invention to modify the tower foundation of McGinnis as modified by Fey, by

Art Unit: 4155

incorporating metal liners in recesses about the bores similar to that of Silber in order to make the tower foundation more durable.

Regarding claim 14, Silber discloses that the metal liner “further includes apparatus for distribution of the concentrated load” (Fig. 6, element 48). Silber notes “plate 48 serves to distribute the concentrated loads created by the tensioning of the long bolts or elongated connecting members.” Using an apparatus to distribute the concentrated loads caused by tensioning bolts in the bores increases the durability of the structure by decreasing the likelihood of cracking near the bores. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tower foundation of McGinnis as modified by Fey, by incorporating apparatus for distributing concentrated loads in the metal liners in the recesses similar to that of Silber in order to make the tower foundation more durable.

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGinnis (US Patent 6,557,312) in view of Fey (US Patent 6,050,038) as applied to claim 15 above, and further in view of Plummer (US Patent 3,181,300).

Regarding claim 16, McGinnis in view of Fey discloses the apparatus of claim 16, as discussed above, but lacks “a liner made of a more durable material than the shelter’s concrete” on the protrusions.

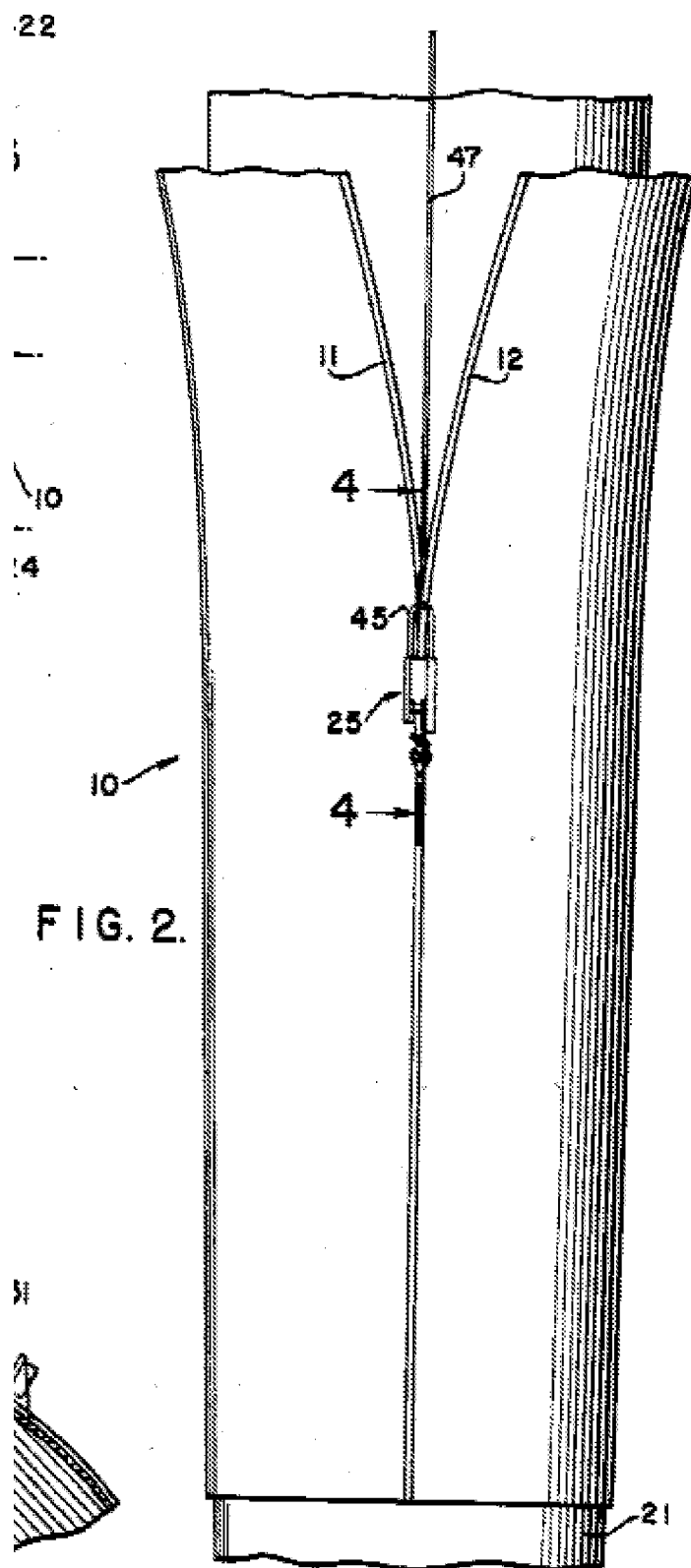


Fig. 2 from Plummer

Plummer teaches that it is known in the art to incorporate a protective liner made of metal as shown in Fig. 2. Using a metal liner protects the portions of the foundation from chipping during handling and installation. It would have been obvious to one of ordinary skill at the time of the invention to modify the tower foundation of McGinnis as modified by Fey, with a liner similar to that of Plummer in order to avoid damage to the foundation shelter pieces.

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGinnis (US Patent 6,557,312) in view of Fey (US Patent 6,050,038) as applied to claim 15 above, and further in view of Gibson (US Patent 3,181,300).

Regarding claim 17, McGinnis in view of Fey discloses that when the protrusions and sockets “fully interlock...a relatively thin clearance remains [which] may be left free” (Fig. 4 of Fey) but lack the clearance being filled with grout. Gibson discloses filling the clearance between concrete structures with grout (Fig. 3, element 19). Filling spaces between concrete structures with grout provides a means for sealing those spaces. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tower foundation of McGinnis as modified by Fey, with grout in the clearance between the concrete shelters in a manner similar to that of Gibson in order to seal those clearances.

9. Concerning claims 18 and 19, the combination of McGinnis (US Patent 6,557,312) with Fey (6,050,038) renders the claimed method steps obvious since such

Art Unit: 4155

would be the logical manner of using the combination, including the site preparation procedure.

10. Claims 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGinnis (US Patent 6,557,312) in view of Fey (US Patent 6,050,038) as applied to claims 1-4, 6-11, and 15 above, and further in view of Yamada (US Patent 6,032,421). Regarding claim 20, McGinnis in view of Fey discloses the apparatus of claim 1, as set forth above, but lacks a "foundation enhancement assembly". Yamada teaches a foundation enhancement assembly with "equi-high prefabricated concrete foundation elements...having the shape of a box open at its top" (Fig. 20). A "substantially vertical surface exists" between the prefabricated boxes. Using a foundation enhancement assembly with prefabricated boxes enhances the stability of the foundation by decreasing the long-term effects of terrestrial erosion and shifting with regard to the ground upon which the foundation rests. It would have been obvious to one of ordinary skill at the time of the invention to modify the tower foundation of McGinnis as modified by Fey, with a foundation enhancement assembly similar to Yamada in order to increase the stability of the foundation. The means of transversely coupling abutting prefabricated elements is disclosed by Fey as discussed with regard to claim 1 above.

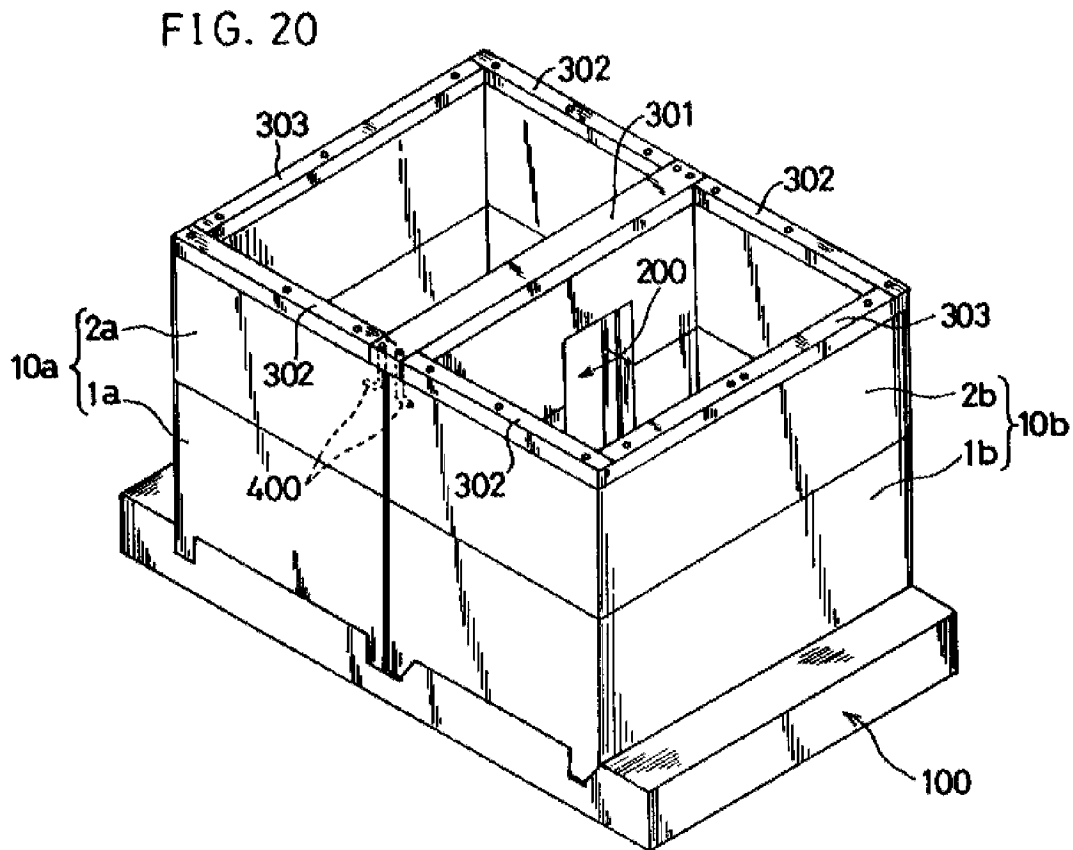


Fig. 20 from Yamada

Regarding claim 21, Yamada teaches “an outwardly horizontal projection of [the] floor from [the] perimeter walls” (Fig. 20, element 100).

Regarding claim 22, as best understood, Fey teaches the means of transversely coupling adjacent elements and it is consistent throughout the structure as discussed in claim 1 above.

Regarding claim 23, Fey discloses the vertical surface of contact to have “a substantially vertical plane having a bulge...defined by [a] protrusion and matching socket...on the abutting surfaces of the walls” (Fig. 4, elements 100 and 98).

Regarding claim 24, Fey discloses a means of fastening prefabricated units with “a plurality of internally threaded metal devices” (Fig. 3, element 36), “a plurality of bores...aligned with [the] internally threaded devices” (Fig. 4, element 94), and a corresponding “plurality of fastening members” (Fig. 4, element 80).

Regarding claim 25, Fey discloses the “elongated vertical fastening members” to be bolts with a plate-washer (Fig. 3, element 66).

Regarding claim 26, Fey discloses “rod[s] being threaded at both its ends in the same direction...including a nut [and a] plate-washer” (Fig. 4).

11. Claims 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGinnis (US Patent 6,557,312) in view of Fey (US Patent 6,050,038) and Yamada (US Patent 6,032,421), as applied to claims 20-26 above, and in further view of Silber (US Patent.

McGinnis in view of Fey and Yamada disclose the apparatus of claim 24 as set forth above, but lack recesses. Silber teaches that it is known in the art to include a recess in

the bores of prefabricated structures (Fig. 5, element 44). Using recesses at the sites of bores on walls of prefabricated structures allows for a tightening assembly to be installed on connecting members through the bores which does not protrude from the wall, which allows objects occupying internal space to be placed flush against the walls, thereby increasing the actual useable internal space available. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tower foundation of McGinnis as modified by Fey and Yamada, by incorporating recesses about the bores similar to that of Silber in order to increase the useable internal space of the shelters.

12. Concerning claims 28 and 29, the combination of McGinnis (US Patent 6, 557, 312) and Fey (US Patent 6,050,038) and Yamada (6,032,421) renders the claimed method steps obvious since such would be the logical manner of using the combination, including the site preparation procedure.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan J. Franks whose telephone number is (571) 270-

Art Unit: 4155

3743. The examiner can normally be reached on Mon.-Thurs., alternating Fri., 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Victor Batson can be reached on (571) 272-6987. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Victor Batson/

Victor Batson
Supervisory Patent Examiner
Art Unit 4155

/R. J. F./